

almost black, the tarsi pale. Abdomen a little longer than the head and thorax together, longitudinally striate, the apical margins of segments 2, 3, and 4, apical half of 5, and the following segments smooth, polished; the second segment has also two transverse lines or impressions, the first distinct situated a little beyond its basal third, the second indistinct.

Hab. — District of Columbia, Cali-

fornia, and Morgantown, W. Va. Types in Coll. Ashmead and National Museum.

My specimens were taken at large, while those in the National Museum were reared June 24, 1891, at Morgantown, W. Va., by Prof. A. D. Hopkins, from *Anthaxia viridicornis*, living in willow twigs.

NOTES ON CERURA, WITH DESCRIPTIONS OF NEW SPECIES

BY HARRISON G. DYAR, BOSTON, MASS.

The species of *Cerura* have been so badly mixed up in Prof. Smith's new list, that I will give a catalogue of them, as follows:

CERURA MULTISCRIPTA Riley.

1875 — Riley, Trans. St. Louis acad. sci., iii, 241.

1890 — Dyar, Psyche, v, 393.

Habitat — Missouri and Illinois to New York.

CERURA SCITISCRIPTA Walker.

1865 — Walk., Cat. lep. Brit. mus., xxxii, 408.

var. CANDIDA Lintner.

1877 — Lintn., 30th rept. N. Y. State mus., 199.

1891 — Dyar, Can. ent., xxiii, 87. *pr. var.*

Habitat — Georgia to Kansas.

CERURA CINEREA Walker.

1865 — Walk. Cat. lep. Brit. mus., xxxii, 407.

1883 — Edwards and Elliot, Papilio, iii,

130.

1891 — Dyar, Psyche, vi, 80.

var. CINEREOIDES Dyar.

1890 — Dyar, Can. ent., xxii, 253.

1891 — Dyar, Psyche, vi, 82.

Habitat — New York to Montana and California.

CERURA OCCIDENTALIS Lintner.

1877 — Lintn., 30th rept. N. Y. State Mus., 194.

1881 — French, Can. ent., xiii, 144.

Habitat — Pennsylvania to Canada and Wisconsin.

CERURA MODESTA Hudson.

1891 — Hudson, Can. ent., xxiii, 197.

Habitat — Northern New York.

CERURA BOREALIS Boisduval.

1832 — Boisduval, Cuv. an. kingd., (Griffith).

1841 — Harris, Rept. ins. Mass., 306.

1864 — Packard, Proc. ent. soc. Phil., iii, 375.

1872 — Lintner, 26th rept. N. Y. st. cab. nat. hist., 151.

1877 — Lintner, 30th rept. N. Y. st. mus., 196.

1881 — French, Can. ent., xiii, 145.

1891 — Dyar, Can. ent., xxiii, 85.

Habitat — Georgia and Missouri to Illinois and New England states.

CERURA SCOLOPENDRINA Boisduval.

1869 — Boisduval, Lép. de la Cal., 86.

1891 — Dyar, Can. ent., xxiii, 186.

aquilonar Lintner.

1877 — Lintn., 30th rept. N. Y. state mus., 197.

1891 — Thaxter, Can., ent., xxiii, 34.

1891 — Dyar, Can. ent., xxiii, 186, *pr. syn.*

Habitat — New York, Canada, Montana, Oregon and California.*

*This is, doubtless, the species to which Butler referred as *C. bicuspis* Bkh. in Ann. mag. n. h., viii, 317.

CERURA ALBICOMA Strecker.

1884 — Strk., Proc. acad. nat. sci. Phil., 284.

Habitat — Colorado.

CERURA PARADOXA Behr.

1885 — Behr, Bull. Cal. acad. sci., i, 64.

Head, thorax and legs clothed with dense white hairs, slightly tinged with cinereous on the collar, and banded on the thorax centrally with black and orange scales; abdomen cinereous, banded with white on the posterior edges of the segments. Fore wings silvery white, the transverse bands usually absent, but not diffused as in *Cerura meridionalis*. When present they are faint, smoky gray, the inner one excavate on the inner side, nearly straight on the outer and slightly incised on the median and internal veins. (The outer is absent on all the specimens before me.) A black dot at base on median vein; just beyond it, another on the subcostal; further out, five more in a curved line, the first extending from costa to costal vein, second on the subcostal vein, third on the median, fourth on internal and fifth on the internal margin. The transverse band is represented by scattered, small gray scales; its margin defined in black on the costa and median vein, and strongly marked with orange scales on the costa, median and internal veins and internal margin. Beyond the band, are five black dots, on the costa, subcostal, median and internal veins respectively, and on the internal margin, the third just at the origin of vein 2. Median space white with a smoky gray transverse line, inwardly produced on the submedian fold. In some specimens this is very faint, but not more so than the other markings. Just beyond it, are two rows of venular dots, representing the outer band and separated by a space of from $\frac{1}{4}$ to 1 mm. The inner row is black, the outer orange, and in one specimen they are the only distinct markings. Terminal space clear white, except a very few inconspicuous small gray scales near costal margin. Terminal intervenular dots distinct, black, but variable in size from small to large.

Hind wings non-lustrous white, with the blackish terminal dots.

Below white, an extra-mesial gray shade line on fore wings and discal spots on both pair. Terminal dots as above.

Expanse, 37-42 mm.

A decidedly variable species, especially in the distinctness of maculation.

Var. PLACIDA, n. var.

This is the form in which the smoky gray transverse bands are evident at first glance, and the characteristic aspect of the species is much modified thereby. The form is rare, occurring only in two or three females out of the large number of specimens in Dr. Behr's collection. It is a partial reversion to the usual type of marking in the genus *Cerura*.

Habitat — Nevada Co., California.

CERURA MERIDIONALIS, *n. sp.*

Head, collar, and patagia white, thorax centrally mixed with blackish and a few orange scales; abdomen apparently pale gray, banded with whitish, but in poor condition in my specimens. Fore wings silvery white, the usual bands and marks nearly lost, being diffused and scattered into numerous black scales, which cover nearly the whole surface. Basal space white, except for a few dots, composed of three or four clustered scales, one at base and, further out, three more, on costal, median and internal veins respectively, the one on the median vein much further out than the others. The transverse band consists of black scattered irrorations on the white ground, with a few orange scales about the median and internal veins. Its shape can be made out, being deeply excavate both without and within, but not broken. It is about 5 mm. wide on internal margin, a little narrower on costa and only a little over 1 mm. wide in its narrowest part below median vein. Median space white, with sparsely, and irregularly distributed black irrorations. The outer band is represented by scattered black irrorations, which extend to the outer margin, but become more dense near the inner border of the band, which is quite sharply defined in one specimen, being

lined, nearly continuously, with orange scales. It starts on the costa, about 4mm. from apex, runs slightly obliquely inwards to vein 5, then curves sharply outward and turns, running parallel to external margin to its junction with the internal margin, where it becomes obscure. It is outwardly produced on veins 3 and 4. In the other specimen, this line lacks most of the orange scales, and is very obscure, its course being hardly discernible. Terminal intervenular spots very slight, consisting of four or five

very small black scales, not contiguous.

Hind wings white, without silvery luster, the intervenular spots larger than on fore wings, smoky black. Below, the wings are white; terminal dots repeated, enlarged.

Expanse 46 mm. Two ♀♀, El Paso, Texas.

Kindly presented to me by Prof. J. J. Rivers of the University of California.

I have drawn up the following table to separate the species of *Cerura*:—

§ 1. Primaries crossed by about eight angularly undulate black lines.

Secondaries black — *multiscripta* Riley.

Secondaries white.

Lines continuous — *scitiscrupta* Walker.

Lines broken — var. *candida* Lintner.

§ 2. Primaries crossed at basal third by a broad gray band, which may be broken or diffuse or even entirely obsolete.

Primaries dark cinereous—*cinerea* Walker.

Primaries pale cinereous.

A row of dots in median space — var. *cinereoides* Dyar.

Three dentate lines in median space.

Band with defined edges and a few orange scales — *occidentalis* Lintner.

Band of uniform tint, and without orange scales — *modesta* Hudson.

Primaries white.

Transverse band indistinct, though perhaps broken.

Six black spots in an ellipse on disk—*borealis* Boisduval.

Indistinct dentate lines on disk.

Band broad — *scolopendrina* Boisduval.

Band narrow or broken — *albicoma* Strecker.

Transverse band faint or obsolete, rarely distinct.

Black markings much reduced, often largely absent, but not diffuse.

Transverse band faint or absent — *paradoxa* Behr.

Transverse band distinct— var. *placida* Dyar.

Black markings very diffuse, irrorate, size large — *meridionalis* Dyar.

PERSONAL NOTES:— American entomologists will be pleased to hear that the mathematical physical faculty of Heidelberg University has conferred the degree of Doctor philosophiae naturalis (honoris causa) upon Baron Charles Robert von Osten Sacken.

Prof. C. H. Tyler Townsend of the New Mexico College of Agriculture at Las Cruces, has started on a field trip by wagon from there to the Grand Cañon of the Colorado, via Flagstaff. Prof. Wooton, of the same College, and two students accompany him, and they expect to be away two months.